

REMARKS

In view of the following remarks, reconsideration of the rejections and further examination are requested. Upon entry of this amendment, the specification is amended, claims 1 and 4 are amended, and claim 3 is cancelled, leaving claims 1, 2 and 4 pending with claim 1 being independent. No new matter has been added.

Applicants note that claim 1 has been amended to overcome a 35 U.S.C. §112, second paragraph rejection and to include the subject matter of claim 3. Therefore, no new search and/or consideration should be necessary and the present amendment should be entered.

Objections to the Specification

The specification is objected to because the Examiner claims it introduces new matter. Specifically, the Examiner states that the amendments to the specification that include “retained austenite” is new matter. Applicants respectfully disagree and note that the original specification, as filed, included “retained austenite”. See Pgs. 1, 7 and 26-28 of the original specification.

Objections to the Claims

Claim 1 is objected to since iron is denoted as “FE”.

Claim 1 has been amended to overcome this objection.

Rejections Under 35 U.S.C. §112, second paragraph

Claims 1-4 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Specifically, the Examiner states that claim 1 recites that Ti may be present by an amount of 0.003% or less and also requires that Ti be present. Therefore, it is not clear whether claim 1 requires Ti or not.

Applicants respectfully disagree; however, claim 1 has been amended to overcome this rejection to expedite prosecution.

Rejections Under 35 U.S.C. §103(a)

Claims 1-4 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohki (U.S. 2003/0123769) in view of Okita et al. (U.S. 5,672,014).

Applicants traverse this rejection.

The cited prior art fails to disclose or render obvious each of the elements of independent claim 1. Claim 1 recites, among other things, a bearing including an inner ring, an outer ring, and a plurality of rolling elements, wherein at least one member of the inner ring, the outer ring, and the rolling elements is formed from steel alloyed with Ti being present up to 0.003% by weight, and the member having a nitrogen-enriched layer formed thereon, the nitrogen-enriched layer having a nitrogen content of 0.1% to 0.7%.

Ohki discloses a heat treated bearing formed from steel, which includes some of the same materials (although in different quantities) as recited in claim 1. However, as recognized by the Examiner, Ohki fails to disclose a nitrogen-enriched layer having a nitrogen content of 0.1% to 0.7%. The Examiner suggests that the carbonitriding process taught by Ohki (Fig. 2) appears to be identical or substantially identical to that disclosed in the instant specification. *See Office Action Pg. 7.*

Applicants respectfully disagree. Figure 2 in Ohki and the figures of this application merely show heat treatment patterns. Nitrogen content depends upon, among others, details of the atmospheric gas used in the treatment. For example, paragraph [0088] of the present application publication states "[A]rticle Z of the present invention contained less retained austenite than Article Y of Comparative Example, but nonetheless achieved equally long life because of nitrogen penetration and fine microstructure." Additionally, paragraph [0090] states "Comparative Example 3 corresponds to a sample that was treated by the same process as in Example of the present invention except that it contains higher level of nitrogen." Thus, as stated in paragraph [0022], "[T]he nitrogen-enriched layer and the austenite structure with a grain size number of 11 or greater together help improve the rolling fatigue life and the crack resistance of the ball and roller bearing of the present invention and make the bearing parts less susceptible to dimensional change over time."

Applicants therefore submit that there is no evidence that the nitrogen-enriched layer of

Ohki is formed in an identical or substantially identical manner as the nitrogen enriched layer of the present invention, since there are other factors (as noted above) that effect nitrogen content. Since rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness, Applicants submit that Ohki fails to disclose or render obvious the nitrogen-enriched layer recited in claim 1. *See KSR International Co. v. Teleflex Inc.* 550 U.S. 398; 127 S. Ct. 1727 (2007).

Furthermore, Applicants submit that there is no evidence that Ti would be present in Ohki in the amount recited in claim 1. Specifically, as suggested by the Examiner, either Ohki does not include Ti or Ohki includes Ti as an impurity and impurities do not exceed 0.1wt%. However, even assuming that the Examiner's assumptions are correct, this interpretation does not necessarily mean that Ti in Ohki exists between 0 and 0.1wt.%. This interpretation merely means that either Ti is not included or Ti is included within some range not exceeding 0.1wt.%. In other words, there is no evidence that Ti exists less than 0.003% by weight in Ohki, as recited in claim 1. Therefore absent articulated reasoning with some rational underpinning as to the Examiner's conclusion that Ti is present in Ohki up to 0.003% by weight, Applicants submit that Ohki fails to disclose or render obvious the claimed Ti % by weight.

Moreover, Maeda does not overcome the above discussed deficiencies discussed above in Ohki.

Therefore, Applicants submit that independent claim 1 and its dependent claims are allowable over the cited prior art.

Conclusion

In view of the foregoing amendments and remarks, all of the claims now pending in this application are believed to be in condition for allowance. Reconsideration and favorable action are respectfully solicited.

Should the Examiner believe there are any remaining issues that must be resolved before this application can be allowed, it is respectfully requested that the Examiner contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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